Clinical Nutrition Research Units and Obesity/Nutrition Research Centers Annual Report 2005–2006

Background

There is a growing public desire for more information on the development, treatment, and prevention of obesity, and the role of diet in disease prevention. The National Institutes of Health (NIH) has performed and supported research relating to obesity and the relationship of diet to health and disease, and it continues to be committed to developing new nutritional information and imparting this information to physicians, other health professionals, and the public.

The National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) within NIH provides a number of grant programs as part of its mission to support research and research training. Two types of university-based core centers whose focus is obesity and nutrition research operate through the support of these grant programs: the Clinical Nutrition Research Unit (CNRU) and the Obesity/Nutrition Research Center (ONRC). The National Cancer Institute (NCI) also supports CNRUs. These NCI-supported core centers focus on nutrition research with an emphasis on its relationship to cancer.

The CNRUs work to bring together basic science and clinical investigators in a manner that will enrich the effectiveness of research in nutritional sciences. The objectives of the CNRUs are to:

- Create or strengthen a focus in biomedical research institutions for multidisciplinary research in the nutritional sciences and include an emphasis on clinical nutrition;
- Develop new knowledge about specific nutrients in health throughout the human life cycle and in the prevention and treatment of disease;
- Strengthen training environments to improve the education of medical students, house staff, practicing physicians, and allied health personnel in clinical nutrition; and
- Enhance patient care and promote good health by focusing attention on clinical nutrition and generating nutritional information for the public.

The ONRCs focus on bringing together basic science and clinical investigators to enhance and extend the effectiveness of nutrition research being conducted in the fields of obesity, eating disorders, and energy regulation. The objectives of the ONRCs are to:

- Create or strengthen a focus in biomedical research institutions for multidisciplinary research in obesity and nutrition;
- Develop new knowledge concerning the development, treatment, and prevention of obesity and eating disorders;
- Understand control and modulation of energy metabolism in obesity;
- Understand and treat disorders associated with abnormalities of energy balance and weight management; and

 Strengthen training environments to improve the education of medical students, house staff, practicing physicians, and allied health personnel with regard to obesity and nutrition.

This document presents the annual reports of the eight CNRUs that have been funded for the last year by NIDDK, along with two new CNRUs that were funded beginning in October of 2005, and four ONRCs supported by NIDDK as well as one other CNRU supported by the NCI. Each of these 15 annual reports provides specific information about the center such as its goals and objectives, core laboratories, pilot and feasibility studies, scientific advances, specific accomplishments relevant to public health, and educational activities.

While differences between the CNRUs and ONRCs exist, and will therefore be evident in the annual reports, the overall goals of each center are the same:

- To support an ongoing research base through more efficient use of resources and promotion of interactions among research staff, and
- To lead to further funding of research investigators.

Advances in obesity research and the nutritional sciences are derived from, and thus are dependent on, many disciplines such as biochemistry, molecular biology, genetics, and physiology and on medical specialties such as internal medicine, pediatrics, and surgery. Because of this interdisciplinary nature, success in achieving goals is dependent on close interactions among obesity and nutritional science researchers, health services providers, and educators. The annual reports demonstrate how these close interactions among investigators and health professionals at the various CNRUs and ONRCs have resulted in significant advances in the fields of obesity and nutritional science.

Although not included in this document, additional research centers have existed and contributed to obesity and nutritional advances in the past. These include the University of Wisconsin, University of Georgia, and Columbia University.

Organization of Annual Reports

This document contains 15 annual reports, one for each core center. Each report provides information under the same generic headings, described below. An attempt was made to present each report in the same format; however, because the various centers operate differently, their activities and accomplishments did not always lend themselves to presentation in identical formats.

Organization and Goals

This section of each report provides the overall goals and objectives of the center.

Core Laboratories

This section describes the center's biomedical research cores. A core is a shared facility that enables CNRU/ONRC investigators to conduct their independently funded, individual research

projects more efficiently and effectively. The type and amount of core facilities found in each CNRU/ONRC vary depending on the center's individual needs; however, all centers have an administrative core that provides a supportive structure. Within this structure is a mechanism to oversee the use of funds for the proposed Pilot and Feasibility Program as well as an external advisory group to support the director in decisions regarding budget, policy, collaborations, and other areas and to provide a scientific review group for the Pilot and Feasibility Program.

Pilot and Feasibility Studies

This section describes studies that are supported at the centers for a limited time to allow eligible investigators to explore the feasibility of an obesity- or nutrition-related concept and amass sufficient data to subsequently pursue its study through other funding mechanisms.

Funding Derived From Previous Pilot and Feasibility Studies

Additional funding from different institutions sometimes results from previous pilot and feasibility studies carried out at the centers. This section, if included, describes the additional funding, its source, and the project funded.

Scientific Advances/Accomplishments

Each CNRU/ONRC presents selected advancements and accomplishments it has made through individual research efforts in the fields of obesity, eating disorders, and nutritional sciences. This section is not intended to include all of the advances and accomplishments of the centers, but highlights ones of particular significance because of their specific application to clinical nutrition or obesity.

Specific Accomplishments

Each center report discusses selected accomplishments, from a public health perspective, that have resulted from the center's existence. These accomplishments include research advances in specific health areas such as women's health, minority health, AIDS, obesity, and energy balance. Also included may be research beneficial to health promotion, disease prevention, and reduction in healthcare costs. (These accomplishments may overlap the scientific advances described above.)

Educational Activities/Accomplishments

This section highlights educational and enrichment activities initiated by the CNRU or ONRC. It also includes any special recognition awards received by the center.

Benefits and Interactions Resulting From the Existence of the CNRU or ONRC

This section, if included, briefly describes the benefits resulting from the presence of the center such as the collaborations it has stimulated and the research of young investigators it has fostered.